

ABSTRACT OF THE DISCLOSURE

An optical fiber comprises a core region extending along a predetermined axis X , and a cladding region surrounding the core region. The cladding region 14 comprises first to $(N+1)$ -th regions such that the first region surrounds the core region, and the $(k+1)$ -th region surrounds the k -th region ($k=1,2,\dots,N$). At least one of the first to $(N+1)$ -th regions includes, in a main medium having a predetermined refractive index, a sub-region made of an auxiliary medium having a refractive index different from that of the main medium. Letting $n[0]$ be the average refractive index of the core region, and $n[k]$ ($k=1,2,\dots,N+1$) be the average refractive index of the k -th region, this optical fiber satisfies the relationship of $n[0] > n[1]$, and $n[i] > n[i+1]$ ($\forall i = h, h+1, \dots, h+m$; where h and m are natural numbers).